

# A change detection procedure for an ergodic diffusion process

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**Abstract** A test procedure based on continuous observation to detect a change in drift parameters of an ergodic diffusion process is proposed. The asymptotic behavior of a random field relating to an estimating equation under the null hypothesis is established using weak convergence theory in separable Hilbert spaces. This result is applied to a change point detection test.

**Keywords** Change point problems · Diffusion processes · Weak convergences in  $L^2(0, 1)$

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